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10/710,982

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Makoto Izawa

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WASHINGTON, DC 20006

EXAMINER

KHOSHNOODI, NADIA

ART UNIT

PAPER NUMBER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/710,982

**Applicant(s)**

IZAWA ET AL.

**Examiner**

NADIA KHOSHNOODI

**Art Unit**

2437

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

Applicant's arguments/amendments with respect to pending claims 1-8 filed 1/6/2009 have been fully considered but they are not persuasive. Arguments/amendments with regards to newly presented claims 9-11 have been fully considered but are moot in view of new grounds rejection. The Examiner would like to point out that this action is made final (See MPEP 706.07a).

***Response to Arguments***

Applicants contend that Funabe et al. and Droge fail to teach/suggest "bridge means in a data link layer for allowing data, which has been received with one of a plurality of ports and then on which the encrypting or decrypting process has been performed, to be outputted as it is from another port *without any routing process at a network layer being performed* (emphasis added)." Droge teaches that data may be encrypted at a data link layer of a first computer and then transmitted by a transmission mechanism to a first interface device (col. 6, lines 62-65). Based on the previous citation, the bridge means in a data link layer allows data to be received with one of a plurality of ports and outputs it from another port after encrypting/decrypting processing has been performed. Furthermore, the previous citation also suggests that this step did not require and routing process at a network layer to be performed when the bridge means is being used to transmit the data. According to Droge, in col. 6, lines 65-67, the data is packetized at the first interface device which is also where the routing occurs, these steps being after the bridge means has been utilized to transmit the data. Thus, the combination of Funabe et al. and Droge teach/suggest bridge means in a data link layer for allowing data, which has been received

with one of a plurality of ports and then on which the encrypting or decrypting process has been performed, to be outputted as it is from another port without any routing process at a network layer being performed.

Due to the reasons stated above, the Examiner maintains rejections with respect to the pending claims. The prior arts of records taken singly and/or in combination teach the limitations that the Applicant suggests distinguish from the prior art. Therefore, it is the Examiner's conclusion that the pending claims are not patentably distinct or non-obvious over the prior art of record as presented.

*Claim Rejections - 35 USC § 103*

I. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funabe et al., US Patent No. 6,016,350, and further in view of Droge, US Patent No. 7,076,651.

As per claim 1:

Funabe et al. substantially teach an encryption apparatus, comprising: a plurality of ports to at least one of which a terminal having an encrypting capability can be directly or indirectly connected (col. 6, lines 38-44); and encryption/decryption means for performing an encrypting process and a decrypting process on data to terminate encryption-based security between the

terminal having the encrypting capability and/or the non-encrypting capability (col. 6, lines 57-61 and col. 11, lines 14-35).

Not explicitly disclosed is a bridge means in a data link layer for allowing data, which has been received with one of the plurality of ports and then on which the encrypting or decrypting process has been performed, to be outputted as it is from another port without any routing process at a network layer being performed. However, Droge teaches that the data link layer may be used to perform encryption/decryption processes as well as outputting the data to the modem line which transmits the data, without routing, to a first interface (col. 6, lines 62-65). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Funabe et al. to have the bridge means in the data link layer to output the data from another port, i.e. the modem, once the data link layer has performed the encryption/decryption. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Droge suggests that using the data link layer to harbor the bridge means allows for various mechanisms to be used, one of which is IPSEC, in col. 7, lines 1-14.

As per claim 2:

Funabe et al. and Droge substantially teach the encryption apparatus according to claim 1. Furthermore, Funabe et al. teach wherein the encryption/decryption means performs the encrypting process and the decrypting process on data, so that the encryption apparatus receives and retransmits data in the form of encrypted data from and to the terminal having the encrypting capability, and the encryption apparatus receives and retransmits the data in the form of non-encrypted data from and to the terminal having no encrypting capability (col. 6, lines 29-61 and

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col. 7, lines 4-30).

As per claim 3:

Funabe et al. substantially teach an encryption apparatus, comprising: a plurality of ports to at least one of which a terminal having an encrypting capability can be directly or indirectly connected (col. 6, lines 38-44); encryption/decryption means for performing an encrypting process or a decrypting process on data which has been received with one of the plurality of ports and then has passed through a physical layer and a data link layer (col. 6, lines 57-61 and col. 11, lines 14-35).

Not explicitly disclosed is a bridge means in the data link layer for passing the encrypted or decrypted data to the data link layer and the physical layer without passing said data to a network layer in which routing between networks is controlled, and then sending said data to another port so as to be outputted from said port. However, Droge teaches that the data link layer may be used to perform encryption/decryption processes as well as outputting the data to the modem line which transmits the data, without routing, to a first interface (col. 6, lines 31-37 and lines 62-65). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Funabe et al. to have the bridge means in the data link layer to output the data from another port, i.e. the modem, once the data link layer has performed the encryption/decryption. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Droge suggests that using the data link layer to harbor the bridge means allows for various mechanisms to be used, one of which is IPSEC, in col. 7, lines 1-14.

As per claim 4:

Funabe et al. and Droge substantially teach the encryption apparatus according to claim 3. Funabe et al. teach the apparatus further comprising setting information storage means for storing setting information for controlling the encrypting process and the decrypting process, wherein the encryption/decryption means controls the encrypting process and the decrypting process by comparing the setting information stored in the setting information storage means with header information of a data packet of the data received with one of the plurality of ports (col. 5, lines 9-25).

As per claim 5:

Funabe et al. substantially teach an encrypting method for performing an encrypting process and a decrypting process using an encryption apparatus, the apparatus having a plurality of ports to at least one of which a terminal having an encrypting capability can be directly or indirectly connected (col. 6, lines 38-44), the method comprising the steps of: performing the encrypting or decrypting process on data which has been received with one of the plurality of ports and then has passed through a data link layer and a physical layer (col. 6, lines 57-61 and col. 11, lines 14-35).

Not explicitly disclosed is outputting the encrypted or decrypted data from another port through the physical layer and a bridge means in the data link layer, without passing said data to a network layer in which routing between networks is controlled. However, Droge teaches that the data link layer may be used to perform encryption/decryption processes as well as outputting the data to the modem line which transmits the data, without routing, to a first interface (col. 6, lines 31-37 and lines 62-65). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Funabe et al. to have the bridge

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means in the data link layer to output the data from another port, i.e. the modem, once the data link layer has performed the encryption/decryption. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Droge suggests that using the data link layer to harbor the bridge means allows for various mechanisms to be used, one of which is IPSEC, in col. 7, lines 1-14.

As per claim 6:

Funabe et al. and Droge substantially teach the encryption system, comprising: an encryption apparatus according to claim 1. Furthermore, Droge teaches a terminal having an encrypting capability which can be connected to the encryption apparatus through a wireless or cable network (col. 4, lines 34-36).

As per claim 7:

Funabe et al. and Droge substantially teach the encryption system, comprising: a terminal having an encrypting capability; a terminal having no encrypting capability; and an encryption apparatus according to claim 2. Furthermore, Funabe et al. teach the system which can be connected between the terminal having the encrypting capability and the terminal having no encrypting capability through a wireless or cable network (col. 6, lines 38-61).

As per claim 8:

Funabe et al. and Droge substantially teach the encryption apparatus according to claim 2. Furthermore, Funabe et al. teach wherein the encryption/decryption means performs the decrypting process on encrypted data and then sending said data to a terminal having no encrypting capability when the encryption apparatus receives said encrypted data from another terminal having an encrypting capability and retransmits said data to the terminal having no



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encrypting capability, and performs the encrypting process on non-encrypted data and then sending said data to a terminal having an encrypting capability when the encryption apparatus receives said non-encrypted data from another terminal having no encrypting capability and retransmits said data to the terminal having the encrypting capability (col. 6, lines 29-61 and col. 7, lines 4-30).

III. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funabe et al., US Patent No. 6,016,350 and Droge, US Patent No. 7,076,651 as applied to claims 1, 3, and 5 above, and further in view of Ellington et al., US Patent No. 6,708,218.

As per claims 9-11:

Funabe et al. and Droge substantially teach the apparatus/method of claims 1, 3, and 5. Not explicitly disclosed is wherein the bridge means is an IP-Sec bridge and data transmission processes are carried out in layers lower than the network layer. However, Ellington et al. teach the use of IP-Sec packet filtering which utilizes functionality in the data link layer to determine what type of processing is required for the received frame and shifts what is normally processed on the network layer onto the data link layer (col. 7, lines 31-45). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Funabe et al. and Droge for the bridge means to be an IP-Sec bridge and for the routing processing to be shifted from the network layer (layer 3) to the data link layer (layer 2). This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Ellington et al. suggest using an IP-Sec bridge and shifting the routing processing from the network layer to a lower

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layer, such as the data link layer, significantly enhances system performance in col. 7, lines 41-45.

*\*References Cited, Not Used*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. US Patent No. 6,640,248
2. US Patent No. 6,490,273
3. US Pub. No. 2003/0106067

The above references have been cited because they are relevant due to the manner in which the invention has been claimed.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadia Khoshnoodi whose telephone number is (571) 272-3825. The examiner can normally be reached on M-F: 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Nadia Khoshnoodi/  
Examiner, Art Unit 2437  
4/7/2009

NK

/Emmanuel L. Moise/  
Supervisory Patent Examiner, Art Unit 2437